

IN THE CLAIMS:

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1.-14. (Canceled)

15. (New) Magnetic nanoparticles comprising at least one metal oxide and a polymer and produced by subjecting the metal oxide and the polymer to high pressure homogenization in an aqueous medium of pH greater than 7, the nanoparticles comprising at least 50 mass percent metal, having hydrodynamic diameter of less than 200 nm and higher magnetization at low magnetic field strengths than the metal oxide.

16. (New) Magnetic nanoparticles according to claim 15, wherein the nanoparticles have the properties of forming in water or an aqueous solution a colloid which is stable for a long period in the absence of an external magnetic field.

17. (New) Magnetic nanoparticles according to claim 15, wherein the nanoparticles have the property of being separable by permanent magnets from a medium in which the nanoparticles are contained.

18. (New) Magnetic nanoparticles according to claim 10, wherein the nanoparticles have the property of being separable from the water or the aqueous solution in which they have formed a colloid.

19. (New) Magnetic nanoparticles according to claim 15, wherein the at least one metal oxide comprises an iron oxide or a mixture of iron oxides.

20. (New) Magnetic nanoparticles according to claim 15, wherein the at least one metal oxide comprises magnetite or maghenite or a mixture of magnetite and maghenite.

21. (New) Magnetic nanoparticles according to claim 19, wherein the iron oxide or mixture of iron oxides contains at least one bivalent or trivalent metal ion other than iron ions.

22. (New) Magnetic nanoparticles according to claim 15, wherein the polymer comprises synthetic polymer.

23. (New) Magnetic nanoparticles according to claim 15, wherein the polymer comprises natural or derivatized polysaccharide.

24. (New) Magnetic nanoparticles according to claim 23, wherein the polysaccharide comprises dextrane.

25. (New) Magnetic nanoparticles according to claim 24, wherein the dextrane is derivatized with functional groups or substructures.

26. (New) Method according to claim 15, wherein the high pressure of the homogenization is at least 500 bar.

27. (New) Magnetic nanoparticles according to claim 15, wherein the metal oxide is produced in the aqueous medium from a salt or hydroxide of the metal of each of the at least one metal oxide.

28. (New) Magnetic nanoparticles according to claim 15, wherein the aqueous medium comprises a solution of ammonia in water.